

Notes on the genus *Episcaphium* Lewis (Coleoptera, Staphylinidae, Scaphidiinae) with description of a new species from China

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Abstract

A new *Episcaphium* species collected from Yunnan Province of China is described as *E. zhuxiaoyui* **sp. n.**, and its diagnostic characters are illustrated. A new province record of *E. haematoides* is reported. A key to the *Episcaphium* species recorded from China is provided.

Keywords

Coleoptera, Staphylinidae, *Episcaphium*, new species, China

Introduction

Episcaphium Lewis, 1893 is a small Asian genus of Scaphidiinae. Up to the present, eleven species of the genus have been known from the world, and six species have been known from China: *E. catenatum* Löbl, 1999 and *E. watanabei* Löbl, 2002 from Sichuan, *E. strenuum* Löbl, 1999 and *E. haematoides* Löbl, 1999 from Yunnan, *E. changchini* Sheng & Gu, 2009 from Shaanxi, and *E. dabashanum* Sheng & Gu, 2009 from Chongqing.

Recently, we examined some specimens of the genus, among them a new species and a new province record.

Material and methods

Specimens were mainly collected by hand from decayed wood and fungi in broad-leaved forests and killed with ethyl acetate. For examination of the male genitalia, the last two abdominal segments were detached from the body after softening the specimens in hot water. The aedeagi were mounted in Euparal (Chroma Gesellschaft Schmidt, Koengen, Germany) on plastic slides. Photos of the aedeagi were taken with a Canon G9 camera attached to an Olympus SZX 16 stereoscope; habitus photos were taken with a Canon macro photo lens MP-E 65 mm attached to a Canon EOS7D camera and stacked with Zerene Stacker (<http://www.zereneystems.com/cms/stacker>).

The type specimens treated in this study are deposited in the following public and private collections:

NMPC National Museum, Praha, Prague, Czech Republic

SHNU Department of Biology, Shanghai Normal University, P. R. China

Taxonomy

Episcaphium zhuxiaoyui sp. n.

<http://zoobank.org/1DE9B6EA-C85E-4506-8123-BB6F3CDE9DA4>

Figs 1, 2, 5–7, 11

Type material. Holotype. China: Yunnan: ♂, glued on a card with labels as follows: “China, Yunnan Prov., Gongshan County, Heiwadi, alt. 2000 m, 7–10 June 2009, Zhu Jian-Qing & Zhu Xiao-Yu leg. ” “Holotype / *Episcaphium zhuxiaoyui* / Tang, Tu & Li” [red handwritten label] (SHNU) **Paratypes.** 5♂♂5♀♀, same data as the holotype (SHNU); 1♂, Deqin County, Nagu Vill., alt. 2250 m, 11.VII.2010, Wen-Xuan Bi leg. (SHNU); 7♂♂5♀♀, Lushui County, Laowo, Fenshuiling, alt. 2250 m, 7.VII.2010, Wen-Xuan Bi leg. (SHNU)

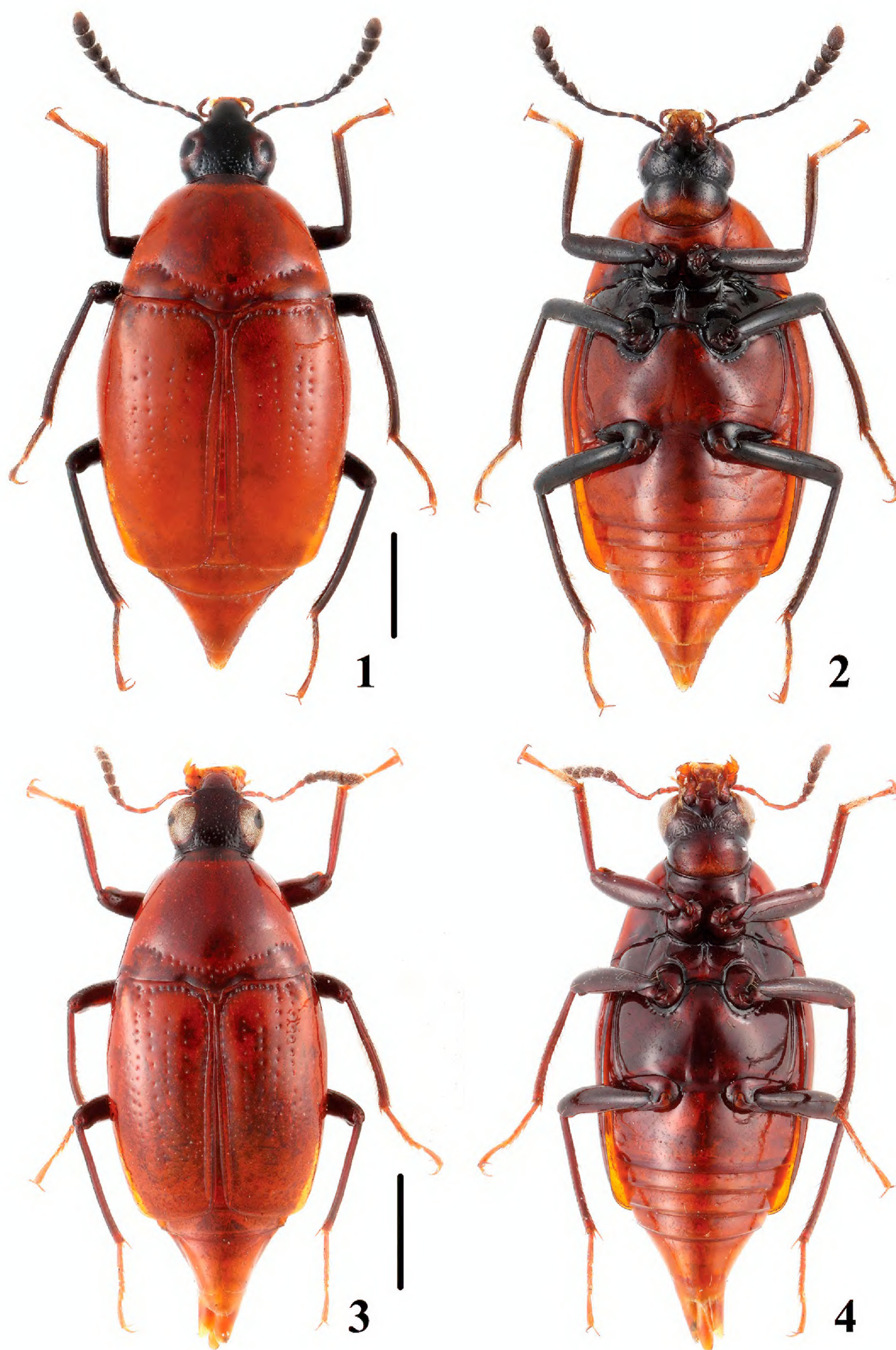
Description. Body length: 5.3–5.9 mm. Pronotum width: 2.0–2.1 mm.

Head black, except for the reddish mouthparts. Inner basal parts of prohypomera, legs including coxal cavity and mesosternum blackish. Other parts reddish.

Frons at narrowest point 0.42–0.44 mm wide. Head coarsely and very densely punctate, punctation coarse on vertex and fine near eyes. Intervals between punctures distinctly smaller than diameter of punctures. Between eyes with a pair of impunctate patches. Labium smooth. Gular striae impressed, groove-like basally.

Pronotum with antebasal puncture row usually interrupted at middle (rarely uninterrupted), impressed laterally. Discal punctures fine and sparse.

Elytra with shallow apical impression and indistinct humeral protuberance; disc with four discal puncture rows consisting of rather coarse punctures anteriorly gradually becoming finer posteriad. All rows start at about basal 2/11 of elytron and end blurrily where puncture rows mix with apical disc punctures. Punctation fine between



Figures 1–4. Adult habitus of *Episcaphium*. **1, 2** *E. zhuxiaoyui* sp. n. **3, 4** *E. semirufum* Lewis. Scales = 1 mm.



Figures 5–10. 5–7 *E. zhuxiaoyui* sp. n. 5 aedeagus in lateral view 6 aedeagus in dorsal view 7 details of internal sac 8–10 *E. semirufum* Lewis 8 aedeagus in lateral view 9 aedeagus in dorsal view 10 details of internal sac. Scales = 0.25 mm.



Figures 11, 12. 11 Living *E. zhuxiaoyui* sp. n. on fungus 12 Collector Mr. Zhu Xiao-Yu and log with fungus. Photo by Mr. Jian-Qing Zhu.

discal series of punctures and coarse in apical impressions. Mesoventral process with raised, ridge-like edges, and impressed in middle.

Metaventricle finely and sparsely punctate, lacking microsculpture, with medio-apical impression shallow, narrowed anteriorly, and carinate laterally.

Punctuation of abdominal sternites very fine and very sparse. Micropunctures absent.

Male sexual characters. Segments 1 to 3 of protarsi slightly widened with dense setae on ventral side. Aedeagus (Figs 5, 6) with median lobe with apical portion inflexed in lateral view. Basal process small, slightly prominent. Parameres slightly sinuate in lateral view. Internal sac (Fig. 7) with a pair of comma-like sclerotized rods.

Distribution. China (Yunnan).

Remarks. This new species is similar to the variety of *E. semirufum* Lewis, 1893 with dark head described from Japan (Figs 3, 4, 8–10), but it may be distinguished from the latter by the different coloration of the ventral side, a pronotum with the antebasal puncture row usually interrupted at middle, and the formation of the discal puncture rows on the elytra: the two outer rows are distinctly separated from the basal puncture row, while in *E. semirufum*, they fuse with the basal puncture row. The new species is distinguished from all the other species by its coloration.

Etymology. This species is named in honor of Mr. Xiao-Yu Zhu who collected some specimens of the new species.

Biological notes. This species was found gathering on an unknown fungus on a huge rotten log across stream, and was observed to become active when night fell (Figs 11, 12).

Episcaphium haematoides Löbl, 1999

Material examined. China: Gansu: 1♂, Lazikou Valley, 2020–2510 m, 34°09.9–10.1'N, 103°48.2–51.9'E, 28.VI.2005, J. Hájek, D. Král & J. Růžicka leg. (NMPC)

Distribution. This species was previously known from Yunnan and Sichuan. The above male represents the first record from Gansu.

Key to *Episcaphium* species of China

- | | | |
|---|--|----------------------|
| 1 | Pronotum black..... | 2 |
| – | Pronotum and elytra reddish, sometimes with black spots or fasciae | 4 |
| 2 | Elytra without puncture rows; abdomen reddish..... | <i>E. strenuum</i> |
| – | Elytra with four discal puncture rows; abdomen black..... | 3 |
| 3 | Pronotum with antebasal puncture row impressed laterally; elytra with distinct apical impressions..... | <i>E. dabashanum</i> |
| – | Pronotum with antebasal puncture row not impressed laterally; elytra without impressions..... | <i>E. catenatum</i> |
| 4 | Elytra reddish with black spots or fasciae | 5 |
| – | Elytra entirely reddish..... | <i>E. zhuxiaoyui</i> |
| 5 | Elytra each with two black transverse fasciae, without discal puncture rows.... | <i>E. watanabei</i> |
| – | Elytra each with one apical black spot, with four discal puncture rows..... | 6 |

- 6 Tempora without punctures; pronotum with a pair of black basal spots situated between antebasal puncture row and basal edge..... *E. haematoides*
- Tempora densely punctate; pronotum with a pair of black median spots anterior to antebasal puncture row *E. changchini*

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